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Distributing Liability

The legal and political battles of Y2K

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Abstract

In 1999 the United States Congress passed the Y2K Act, a major—but temporary—effort at reshaping American tort law. The Act strictly limited the scope and applicability of lawsuits related to liability for the Year 2000 Problem. This paper excavates the process that led to the Act, including its unlikely signature by President Clinton. The history presented here is based on a reconsideration of the Y2K crisis as a major episode in the history of computing. The Act, and the Y2K crisis more broadly, expose the complex interconnections of software, code, and law at the end of the 20th century, and, taken seriously, argue for the appreciation of the role of liability in the history of technology.

Keywords: History of Computing; Law and Computing; Infrastructure; Liability Law; Politics and Computing; Y2K

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Introduction

*"It's almost a betrayal. After being told for years that technology is the path to a highly evolved future, it's come as something of a shock to discover that a computer system is not a shining city on a hill - perfect and ever new - but something more akin to an old farmhouse built bit by bit over decades by non-union carpenters."*¹

— Ellen Ullman, "The Myth of Order" *Wired*, April 1999

*"It's the bug that finally gives lawyers the opportunity to rule the world,"*²

— Evelyn Ashley, at a meeting of the American Bar Association, 1998

The United States' "Y2K Act" of 1999 took drastic steps to protect American companies from lawsuits related to the Year 2000 Problem (the "Y2K bug").³ Among other changes, the Act gave all companies ninety days to solve any Y2K malfunctions, capped punitive damages, and stipulated that legal and financial responsibility would have to be distributed proportionately among any liable companies. These changes shielded larger and richer companies from lawsuits where their role was deemed marginal while simultaneously increasing the burden of proof on any potential claimants.

The lead-up to the year 2000 was marked by urgent warnings about the potential damage of Y2K errors and the unpredictable harm and suffering resulting from the interweaving of computing technology with everyday life.⁴ As one response to these fears, the Y2K Act was meant to stave off a potential crisis in liability and insurance claims. Beyond this, the Act was a major policy feat and a significant gain for proponents of tort reform—i.e., limits on the scope and applicability of liability. From a historical perspective its passage provides useful insight into the role that legal liability, torts, and insurance play in the political management and mitigation of technological breakdown.

This article approaches the history of computing through the largely forgotten process that brought the Y2K Act into law. Passage of the Act was opposed by entrenched political interests, including American trial attorneys, consumer advocates,

and many members and officials within the Democratic Party. The eventual success of the Act's eventual passage involved unflinching support from the Republican Party and intense lobbying from their allies within American industry. Among the most vociferous in their support were the US Chamber of Commerce and a coalition of technology companies, who exercised their increased political clout. The episode also included a lengthy courtship, as both major American political parties sought to use Y2K as an opportunity to align themselves with a newly powerful tech industry. Despite vowing to veto the bill that became the Y2K Act, President Clinton's signature marked what several commentators described as an unprecedented act of tort reform.

From the vantage point of the present, the Y2K crisis is often dismissed as a false alarm and a product of hysteria and misinformation. Taken seriously, however, the crisis can better be understood as a major episode in the history of computing, the management of infrastructure, and the grassroots effort to educate diverse publics in the contingency of technology. As the controversy surrounding the passage of the Y2K Act shows, the crisis also exposed the complex interconnections of software, code, and law. This article approaches the Y2K Act as the convergence of two stories about Y2K and late-20th century American politics, capitalism, and the distribution of responsibility. The first story is one of technological malfunction and its repair, in which the unpredictable but potentially dire consequences of Y2K-related breakdown compelled a global effort at software and hardware remediation.⁵ The second story is a story of the normal functioning of American tort law and the ways that this functioning threatened the stability of an American industry.

"Tort law" refers to the adjudication of civil suits where the law provides a framework for the remedy of a "wrong." In practice, tort law exposes prevailing social norms about what constitutes an unacceptable wrong and what constitutes fair compensation for being wronged. As Lochlann Jain argues,

Tort laws hold a peculiarly vital place in the United States, given—undoubtedly as a result of—the lack of universal health care coverage, the dearth of regulatory bodies... and the particular qualities of money, which can mutate in purpose from compensation to punishment.⁶

Thus, plaintiffs "earn" compensation for being wronged and the state plays the pivotal role of defining certain wrongs and stipulating under which conditions compensation (punishment) might be limited. Lawrence Friedman argues that one of the grand changes in 20th century American society and, with it, American law, was the greater demand for legal justice seen in the law of torts: "*a general expectation of justice, and a general expectation of recompense for injuries and loss.*"⁷ In the 19th century American law was far more favorable to businesses over individuals and workers. By contrast, 20th century torts generally embraced the principle that the liable had to accept responsibility,

coinciding with the higher level of labor and consumer organisation.⁸ In other words, in different eras liability law either acted as a safety net for corporations or for consumers and workers. The beneficiary in either case won protection through political clout.

The law of torts can condition the ways technologies are developed, built, and used. Since uncertainty can stanch capital and limits on liability can accelerate how an industry invests capital, the legal coding of a market economy can determine which assets are “placed on steroids.”⁹ Against the backdrop of what Tom Streeter has called a “corporate liberal technology policy” liability for computing’s ills became a new political obstacle.¹⁰ The Y2K crisis presented a challenge to the social expectations surrounding both liability and the normal functioning of technology. By the mid-1990s, it had seemed that liability for computer-caused injury was a “non-starter” and claims of economic were similarly ineffective.¹¹ The Year 2000 Problem tested these presumptions by recasting the categories of injury, negligence, and consumer in the context of the increasing everydayness of computerized infrastructure. The history of the Y2K Act provides a roadmap for writing the history of computing through the lens of legal responsibility and risk management.

The Year 2000 Problem

Leading up to the year 2000, news outlets, governments, and experts from across technical and financial industries warned that the world might experience widespread computer failures due to a common coding practice originating from the late 1950s and early 1960s. In programming languages from this period, including FORTRAN and COBOL, programmers could choose to represent dates in six digits instead of eight: DD-MM-YY, or, often: YY-MM-DD. The representation of the century as two digits created unknown but potentially catastrophic consequences if computers still running older software, or employing embedded chips, were forced to reckon with a century field containing only “00.”¹²

Writing in 1998 Paul Edwards used the occasion of the Year 2000 Problem to discuss the ways “computers have become, as it were, the infrastructure of our infrastructure.”¹³ Unlike other, traditional infrastructures, Edwards argued, computer infrastructures operated at a “meta-level” that pervaded social institutions through “internetworks.” While earlier glitches and breakdowns had exposed the internetworking of, say, financial industries or military systems, the Y2K crisis threatened chaos at a potentially global scale:

The results are unpredictable. Spectacular breakdowns in everything from military command-control systems to Internal Revenue Service tax computations are highly likely. Microprocessors embedded in everything from automobiles to elevators may fail. Rumor has it that some airlines are not accepting flight reservations for January 1, 2000, for fear of major confusion in the worldwide air traffic control system.¹⁴

The structure of the Year 2000 problem was almost perfect for generating anxiety: it combined a *definite* date with *indefinite* dangers and the internetworking of computers made it virtually impossible to adequately model the fallout of cascading system failures. As Edwards indicates, the discomfiting nature of the crisis, for experts, was connected to the dread of its worst case scenarios, and, just as importantly, its profound uncertainty. Only the naïve and the cavalier pretended to know *exactly* what would happen. As Stephen Graham and Nigel Thrift argued, “during the Y2K crisis, even computer and software engineers often had little idea of the full archaeological sedimentation of decades worth of software within their computer networks.”¹⁵

The uncertainty of Y2K errors was augmented by speculations about its root causes. Though blame is often singularly attributed to the six-digit format, the widely distributed antecedents to the Y2K crisis include economic imperatives, bureaucratic decisions, haphazard coding techniques, a lack of managerial oversight, and scant attention paid to software maintenance.¹⁶ All of these factors (among others, surely) contributed to the use of six digits as a *de facto* standard. For instance, six-digit dates were provided as the reference format within the data division of the revised COBOL specifications for 1961¹⁷ and were enshrined as standard bureaucratic practice in 1968 when the National Bureau of Standards published the Federal Information Processing Standards Publication 4.¹⁸ The twin uses of six-digit dates within coding manuals and government guidelines helped cement them as a norm but (mostly) went uncommented upon for decades to come.

In the typical story about the Y2K crisis the choice to compress century dates is often attributed to the cost of computer memory in the 1960s. The choice to remove two additional digits is less controversial if we imagine the savings of eliminating those digits across thousands or millions of entries within a single government or business database—like those of the Social Security Administration, an insurer, or a bank. Others argue that the cost of memory in the 1960s was inflated by IBM through their practice of bundling cheaper CPUs with a small amount of memory, and charging more for additional memory, for which their profit margin was much higher.¹⁹ Regardless of the

target of blame there is no single cause of Y2K but rather a range of causes related to the representation of dates in digital systems and in formal standards.

The first warnings about two-digit century dates came in the early 1970s. Bob Bemer, a computer programmer, member of CODASYL, and a longtime employee of IBM, Univac, General Electric, and Honeywell, claimed to be the first Cassandra of potential problems, writing in the *Honeywell Computer Journal* in 1971:

The 4 digits of “year” may be reduced to 2 digits for “year of the century”, or to 1 digit for “year of the decade”. **It should be obvious, however, that extreme caution should be exercised in using these options for mechanical processing.**²⁰

Bemer later repeated this warning in *Interface Age* in February 1979, with more specificity:

don’t drop the first two digits for computer processing, unless you take extreme care, remembering that it’s only the “year of the century”. Otherwise the program may fail from ambiguity in the year 2000.²¹

Beyond Bemer’s alerts, there were only scattered warnings about impending Year 2000 Problems in the 1970s and 1980s. Though some rang alarm bells – Peter De Jager’s 1993 article, “Doomsday 2000,” in *Computersworld* stands out – it wasn’t until the mid-1990s that Y2K started to receive widespread coverage.²² Bank of America offered a plaque to the first employee to find a Year 2000 problem in the 1980s, but did not start remediating their own code until 1996.²³ By the late 1990s, however, a true “Y2K crisis” had taken hold, with the Gartner Group predicting as much as \$600 billion in worldwide repair costs—though the actual total may have been much lower.²⁴ In response to the threat of uncertainty, governments, corporations, community groups, and non-governmental organizations launched massive repair programs, as well as educational campaigns meant to prepare populations for infrastructural malfunction.

Post-2000 analysis often treats the fear surrounding Y2K as hyped-up Fear, Uncertainty, and Doubt (FUD). But another view, that of the anti-FUD, treats the remediation effort as a period of worldwide software repair, hardware replacement, and public computer literacy campaigning meant to train individuals in understanding the nature of the crisis. Researching the crisis over recent years, I’ve been struck by buoyant postmortem memos and reports: celebrations of inter-departmental cooperation and the acceptance that the lack of largescale breakdown would mean that the preparatory efforts would never be fully appreciated. The Charles Babbage Institute holds the records of the Center for Y2K and Society — a group of concerned citizens, convinced that the fallout of Y2K errors would be disastrous — and the International Y2K Cooperation Center — an organization funded by the World Bank and committed to

assuaging fear and uncertainty. Both organizations contain evidence of self-reflection from the post-2000 period. And although their predictions about January 1, 2000 diverged, both groups claimed that the process of Y2K preparation was a unique experience of collective action.²⁵ Some have also recently suggested that the organized response to the threat of Y2K is a potential model for organizing in response to climate change.²⁶

Y2K, then, is a fascinating historiographic challenge. Although we now know what didn't happen—global infrastructural chaos—we can never be certain what may have happened. Though Y2K errors did not lead to infrastructural collapse, there were still consequences of broken code. In the United Kingdom, Y2K errors in the PathLAN system at Sheffield's Northern General Hospital led to 154 expectant mothers receiving incorrect results for prenatal tests. At least two terminations were carried out because of the dating error.²⁷ Despite such incidents, Y2K is widely remembered as a punchline to the 1990s and an artifact of millenarian hysteria. Louis Menand recently referred to the crisis as a “nutty cocktail of digital overthink and Luddite millennialism.”²⁸ This view is too simplistic. Not only does it ignore the effort to remediate potentially hazardous code, and the actual costs of computing errors, it misses the fact that Y2K was a significant moment of crisis planning and management. The crisis also served the invaluable purpose of exposing the perception of the “near immortality of computer software” and the intricate networks of technical and legal responsibility implicated by computer systems.²⁹ The elusive nature of computing errors has been noted by historians of computing (Volmar & Dick 2018); however, we need to understand how this elusiveness plays out beyond patches and repair. In some cases malfunction seeps out into the legal sphere, where solutions take a different form. The political battles over Y2K liability, then, record the seepage of computing malfunction, and the desperate desire to control some — any — dimension of its aftermath.

The lawsuit problem

In July 1997 the Michigan-based supermarket Produce Palace filed a lawsuit against the manufacturer of its new cash register system, TEC America. At the core of the complaint was the claim that the TEC registers would crash and remain inoperable for as many as five hours after attempting to process credit cards with expiration dates after 1999.³⁰ In other words, Produce Palace claimed that the register system was not Y2K compliant. *Produce Palace v. TEC* was memorialized as the first Y2K lawsuit.

Produce Palace asserted claims against TEC for breach of warranty, violation of the Magnuson-Moss Warranty Act, violation of the Michigan state consumer protection

act, breach of duty of good faith, negligence, misrepresentation, and breach of contract.³¹ TEC claimed that they had no contract and no warranty with Produce Palace. TEC promptly cross-claimed against All American Cash Register, the vendor who installed the system, and counter-sued Produce Palace, claiming the lawsuit was frivolous. Several months later, after a judge had dismissed several of Palace's claims, the parties settled for \$250 000, with TEC paying \$240 000 and All American paying the remaining \$10 000.

Despite the settlement and the judge's dismissals, *Produce Palace v. TEC* seemed to indicate two emerging realities: first, that potential year 2000 problems would be mundane and quotidian just as much as they might be catastrophic; second, that even a relatively small computer system (like one for processing payments in a grocery store) could expose a tangle of responsibility, as a range of intermediaries were involved in the manufacture, installation, and ongoing upkeep of both the hardware and software. This meant that pinpointing blame for a malfunctioning system could become both a technical challenge and a legal contest. And yet, despite this ambiguity, TEC found itself paying out a settlement for a system that it had not installed to a grocery store with which it did not have a contract.

Perhaps most conspicuously, then, *Produce Palace* showed that within the complex arrangement of software companies, hardware manufacturers, vendors, and contractors, the costs of Y2K errors might inevitably redound upon companies that could most easily afford to pay settlements. This was borne out in the lawsuits that followed. By September 1998 at least sixteen lawsuits had been filed in connection with Y2K malfunctions: these included six claims against Intuit Inc. for older versions of Quicken, and claims against Symantec Corp. for its Norton AntiVirus software. There were also claims from stockholders made against companies that, the claimants argued, exaggerated their ability to generate Y2K-related business.³² There was growing evidence that demonstrated that any technical repair effort existed alongside a growing legal fight, which for technology companies and their insurers, represented a massive hazard, and for trial attorneys, a lucrative opportunity.³³

It is in this context that liability became the focal point of debate. In addition to legal liability for malfunction and breakdown, there was fear of a "second order" liability fight between insurers and speculation that engineers could be held liable for any failures in equipment they had specified—even if they had no role in its installation or upkeep.³⁴ As Y2K approached, insurers sought to limit their coverage for errors associated with Year 2000 Problems. In one policy carve-out proposed by the American Association of Insurance Services, it was suggested that the "insurer will not pay for property damage, personal injury, or advertising injury resulting from the failure of any electronic data processing equipment or computer program to correctly recognize "any

encoded, abbreviated, or encrypted date or time.”³⁵ This exclusion was so broad that it could be interpreted to include not only Y2K errors, but any fault related to the encoding and interpretation of stored dates and times.

In the growing legal literature from the period, *Palace* and the subsequent lawsuits augured a “looming definitional battle” over the key liability categories of tangible property and physical injury, alongside knotty questions of causation.³⁶ Writing in the *Emory Law Journal* Jeffrey Stempel argued that the determination of a physical injury threshold and the locus of causation would likely be most prominent:

For example, in a case like *Produce Palace*, where Y2K problems caused the cash registers to freeze and become inoperative, was there “physical injury” to the cash registers and related supermarket equipment? Most courts would probably say yes. Even though the injury is not initially apparent to the eye, it is clear that the equipment is not working once the twenty-first century credit card is scanned into the system. **The malfunction of the cash registers at that point is like a machine that stops working because of a broken rod inside. The owner cannot see it, but the machine clearly has something concretely broken.**³⁷

This is a familiar gesture for historians of computing as the passage speaks directly to an attempt to emphasize and illustrate the materiality of computing through comparison to more obviously physical technologies (a register is *like* a machine, and an error is *like* a broken rod). This use of similes can render invisible and distributed processes as something legible and comprehensible. The concerns over injury and causation predated the Y2K Act but already highlighted what would soon become the central focus of the debate around the Act: namely, who determines causation for an error in a networked and interdependent computer system? How can we judge whether a physical injury is “palpable” and “detectable” when the breakdown of technology must be interpreted through phenomena like crashes and freezes? And how should responsibility (technical *and* monetary) be distributed among all of the stakeholders involved in such intricate systems?

In addition to these sticky legal questions surrounding cause, injury, and evidence, perhaps the most important indication of the looming threat of Y2K lawsuits was their potential expense. The Gartner Group at one point predicted that punitive and compensatory damage claims could cost as much as \$1 trillion, which eclipsed their estimate for the cost of technical repair. But in an early warning of the legal costs associated with Y2K, Gartner research director Lou Marcoccio said he had seen estimates as high as \$3 trillion, while also stating simply that “Nobody really knows.” The unknown ceiling on litigation and damage payouts mirrored the history of Y2K bugs, from the indeterminacy of the crises’ origins and the uncertain threats to infrastructure and social order.

As the year 2000 approached, the news media coverage of Y2K problems started to merge the technological risks with the legal quagmire, with each being plagued by the difficulty of tracing causes in interdependent systems. As one commentator described the situation in 1998, the legal ramifications of computer failure came into focus as “lawyers [awakened] to the same sense of ubiquity, unpredictability and entanglement that engineers have long seen as the core of the Y2K problem.”³⁸ Together with the ambiguity about how matters of causation and injury would be assessed, the unknown ceiling of potential litigation costs set the stage for the debate surrounding the Y2K Act.

The Y2K Act

While legal experts spent much of 1998 speculating about the fallout of Y2K-related litigation, and Y2K lawsuits continued to be filed, Republican lawmakers and their allies were preparing legislation that would strictly delimit potential torts. In February of 1999 *The Washington Post* reported:

Worried that the year 2000 computer problem will set off an avalanche of lawsuits, a powerful industry coalition yesterday drafted a legislative proposal aimed at limiting litigation and reducing liability damages in the event of business breakdowns.³⁹

That “powerful industry coalition” was led by the U.S. Chamber of Commerce and a group of roughly ninety industry representatives, including the National Association of Manufacturers, the National Federation of Independent Business, and the National Retail Federation.⁴⁰ Together, the coalition had prepared a series of legislative demands during the early weeks of 1999—demands that would constitute the framework of the prospective Y2K Act over coming months. A spokesperson for the Chamber’s Institute for Legal Reform (a leading organization in the promotion of tort reform) claimed, “The idea is to take away the legal lottery and the encouragement for plaintiffs’ lawyers to turn this into a big windfall.”⁴¹ As Jake Tapper wrote at the time, “The [Chamber] has always wanted to legally limit the amount plaintiffs can be awarded, and it saw Y2K litigation reform as a first step toward fighting what Chamber president Thomas J. Donohue calls ‘avaricious trial attorneys.’”⁴²

The White House and Democrats in Congress opposed the legislation and were supported by the Association of Trial Lawyers of America (ATLA), and by consumer advocates, who saw efforts at even temporary tort limitation as the thin edge of the wedge for a bigger reform project. They claimed that existing liability laws protected consumers and employees from hazards and negligence, and that the threat of lawsuits raised standards and encouraged vigilance. The president of the ATLA claimed that any

tort reform would act as a disincentive for actual Y2K repairs and claimed that the industry proposal would “take away the rights of the people they hurt to do anything about it.”⁴³

The Democrats were also supported by small-but-growing interest from members of the traditional and technology press. Early in the legislative process, editorials ran in local newspapers across the country, from the *Seattle Post-Intelligencer*, “Let high-tech firms face Y2K problems,”⁴⁴ *The Tennessean*, “Y2K bug begets bad bills,”⁴⁵ to the *Bangor Daily News*, who decried the “grand gouge” that liability protection represented.⁴⁶ Likewise in his column in the February 9 issue of *Computerworld*, the magazine’s editor-in-chief, Paul Gillin, argued, “Users should oppose [tort reform] efforts with all their power.”⁴⁷ As for blame for Y2K, Gillin singled out “the vendors that capriciously ignored warnings from as long ago as the late ‘70s and that now are trying to buy a free pass from Congress.”⁴⁸

In 1998 trial attorneys saw the uncertain outcomes of Y2K rollover “as a business opportunity.”⁴⁹ By 1999, though, the crisis had become the basis of a retaliation against trial attorneys and their clients, and the uncertainty of Y2K became a beachhead for larger tort reform aspirations. The hinge in both cases was the infrastructural entanglement of legacy code and embedded systems, and the challenge of defining blame and injury in interdependent systems. Both halves of this debate were opportunistic, treating the need to protect either consumers or businesses as a warrant for the redistribution of responsibility and liability.

If this seemed like a fairly typical story of partisan Washington lobbying there was still one novel variable. The strengthening technology industry threatened to scramble existing allegiances. The industry’s immediate commercial interests fit with the plan to limit liability, and the Semiconductor Industry Association and the Information Technology Association of America had both joined in the Republican coalition’s legislative planning process. However, the presumptive nominee for the Democrats in the 2000 presidential election was Vice President Al Gore, whose early and instrumental support of the internet had positioned him as a booster of information technologies and a friend to Silicon Valley interests.⁵⁰ Gore was the target of early and frequent lobbying efforts from the tech industry, including the venture capitalist John Doerr.⁵¹ Gore—and the White House—it seemed, would have to choose between a traditional ally in the ATLA and an emergent ally in the tech industry. As one commentator put it, “This is one of the few segments of the business community that hasn’t reflexively gone Republican... Now the Republicans have started to wake up and say, ‘We want the high-tech community to be ours.’”⁵²

To court the technology industry, the Republicans derided the ATLA by touting the economic success of the booming computer industry and by challenging Gore to

ignore their new political role. The Republican Chairman of the Congressional Campaign Committee stated plainly, with regards to the legislation: “Gore is scared to death... You have to choose between friends. . . . This one wedges them.”⁵³ In response, one of Gore’s spokespeople agreed that the issue was a political instrument, and that the Republicans were “trying to create a wedge issue with the explicit desire to inflict . . . political damage on the vice president.”⁵⁴ For historians of computing, the political manoeuvring of this debate are key. Not only was Y2K liability being leveraged to put Al Gore and the DNC in an awkward position, the perception was that the entire process was a courtship of the tech industry as a new and powerful ally.⁵⁵ As reported in *The Washington Post*:

“This is not just about Al Gore, it’s really about the future of the parties,” another Republican strategist said. “Right now, the political parties are out of date, aligned along issues and an approach to the economy that is 30 years old. **Soon, the political alignment is going to be expressed in a division between old and new. This [high-tech] is a group that is up for grabs.**”⁵⁶

The subsequent debate about the Y2K Act needs to be understood, then, as a complex knot of political, legal, and technological interests. Yes, this was a debate about Y2K preparations and an opportunistic attempt at tort reform. But it was also a contest to win the favor of the technology lobby—which meant the parties had to wager on the industry’s future economic and political clout. Liability, its applicability, and its distribution, became the territory for this contest to play out.

Debate begins

The legislative battle began in earnest in March 1999, with the Senate moving to limit potential liability with bill S. 96. A subsequent bill in the House of Representatives, H.R. 775, went even further than the Senate bill in making changes to existing law.⁵⁷ In testimony given to the House Judiciary Committee, the White House cautioned against taking major actions that “would increase public concern about our nation’s readiness.”⁵⁸ In other words, observing a growing movement to limit the scope of liability, the Administration’s first gambit was to argue that potential legislation might give the impression that the country was unprepared for Y2K, which would run counter to their public position that the country was well on its way to Y2K compliance. Nonetheless, the Senate moved forward with S. 96, “The Y2K Act,” sponsored by

Republican Senators John McCain and Bill Frist, which included the legislative demands of the industry lobby.

By April the White House's congressional support had weakened, with Senator Ron Wyden stating he would support a compromise bill that amended S. 96—and various members of congress supporting alternative plans. The New Democratic Coalition was also seeking to align itself with Silicon Valley, with Rep. Calvin Dooley stating, “It's important for Democrats to demonstrate to one of the most rapidly growing sectors of the economy that we understand the problems they are facing.”⁵⁹ With the administration adamant that they would veto the Senate or House bills, they offered their support for an amendment by Senators John Kerry and Charles Robb that would encourage all parties to seek negotiated settlements (a potential boon to trial attorneys).⁶⁰ Kerry's compromise was based a carve-out requested by the tech industry. The exception relied on the Year 2000 Readiness Disclosure Act, a separate piece of legislation that had passed in 1998 and was already viewed as a shield for many businesses. Kerry's amendment to S. 96 would protect companies against some liability claims if it could be shown they had tried in good faith to fix all potential errors and to communicate known risks to their clients and customers.

The conflict came to a head in June 1999, when McCain made some concessions and gained bipartisan support. But the Republican coalition had not clearly won over the public or its proxies in the media. In the first of two *New York Times* editorials about the debate the paper writes:

Government can certainly help by providing loans, subsidies and expertise to computer users and, perhaps, by setting up special courts to adjudicate claims. Congress can also clarify the liability of companies once it becomes clear how widespread the problem really is. But before the new year, the Government should not use the millennium bug to overturn longstanding liability practices. A potential crisis is no time to abrogate legal rights.⁶¹

Although the White House continued to promise a veto of the bill, their position became more difficult to maintain. What had begun as routine partisan jockeying and maneuvering now became a public debate about the role of computer technology in everyday life and the determination of responsibility should that technology fail.

The push-back strategy was partially led from of the office of Vice President Gore's Chief Domestic Policy Advisor, David Beier. On June 10, 1999 Beier and White House Chief of Staff John Podesta met with John Doerr and a group of “Silicon Valley

executives” to discuss liability reform.⁶² In the lead-up to the meeting, Beier laid out briefing material for Podesta:

My guess is that what they are interested in is whether we are serious about vetoing the Senate bill. If we say we will, then that will be the story in the tech community and the press....

I assume there will be lot of whining and complaining about our position. I think we need to lean into a negotiate or we will do what we promised mode. [sic]⁶³

Simultaneously, Gore’s office was leading negotiations with the “Year 2000 Coalition” – the new title for the consortium of industry associations – and their Republican supporters in Congress. In the Vice President’s talking points, there is an attempt to reconcile his precarious position:

We recognize that actual or potential Y2K failures may result in frivolous litigation. And we recognize that the high technology industry is most likely to be the target of frivolous litigation. . .

But we also must be practical. We cannot let your goal be held hostage by those with a broader tort reform agenda.⁶⁴

The “your” of this statement is directed at Silicon Valley lobbyists, and Gore’s strategy was to portray Y2K tort limits as a Trojan Horse, at once an attempt to “create an issue with which to hurt the Vice President and the Democratic party” and an attempt to “create a precedent that would be impossible for us to avoid in future debates.”⁶⁵ Of course, neither of these goals were a secret and had been expressed frequently by Republican lawmakers themselves. But this tactical analysis lacked the urgency of claims related to Y2K—either technical or financial—and did little to corroborate the brinksmanship of the President’s threatened veto.

While Gore’s office and the White House fought for the support of the tech industry and threatened a veto of the Senate bill, they were inundated with complaints from the legal lobby, citizens’ rights organizations, and much of the mainstream press. Beier’s records are full of supportive press clippings, recommendations from the American Bar Association, and pleas from Ralph Nader’s lobby group Public Citizen. But by the end of June, 1999 the legislative momentum was clearly behind the Y2K act, with only the President’s threatened veto holding it back. In conference negotiations,

the White House attempted to gain concessions regarding proportional liability and punitive caps. The administration's talking points explicitly highlight negotiating principles that were a "HIGH TECH PRIORITY" (caps in original),⁶⁶ though it is unclear if this notation was for the benefit of all the conferees or just the Democrats involved. In the end, however, they obtained only minor changes and the Senate passed an amended version of the House bill that incorporated S. 96, and sent it to President Clinton.

Debate ends

On July 20, 1999 President Clinton reneged on his threat and signed the Y2K Act into law. The Y2K Act was a major feat of tort limitation—but temporary. In addition to a ninety-day grace period to fix any errors, the Y2K Act compelled most lawsuits to be heard in Federal Court, and capped punitive damages against small companies at three times the amount awarded for compensatory damages or \$250 000 (whichever was less).

Perhaps most importantly for historians of computing seeking to understand legal and political encounters with computer infrastructure in the 1990s, the Act provided strict rules by which cause, responsibility, and proportional liability would be adjudicated. The Act suspended "joint and several liability," which typically makes any defendant liable for the entire judgment when other defendants are unable to pay their share or cannot be sued. The Act also created a formula by which plaintiffs would have to demonstrate the share of each defendant's responsibility for any Y2K breakdowns. Tort laws, as part of what Katharina Pistor calls, "the code of capital," map and delineate responsibility; they also shape what, if any, form of justice is made available for wrongdoing. As the complexity and interdependence of computing became a pretext for rewriting tort law, the Y2K Act became an instrument for suspending the normal legal standard of responsibility.

The Act and its legislative process foreshadowed future debates about the state's relationship in managing and mitigating harm from the entanglement of computing with everyday life. The Y2K crisis exposed the inseparability of computer infrastructure from the standard operating conditions of public order. For their part, proponents of the Y2K Act exploited the complexity of large computerized systems to redistribute responsibility for technical failure—a redistribution that would come to characterize the early 21st century's interaction between business interests, new technologies, and consumer rights.

Conclusion

The Y2K Act represents a peculiar moment in the history of computing. With hindsight, the passage of the Act appears to have signaled a confrontation with the distribution of responsibility for technological systems. The Act's passage also makes it clear that the willingness to ascribe responsibility or blame for computing's ills has always been limited—and specifically limited by state interventions in the normal business of corporate enterprise. Both the front- and backstage negotiations over the Y2K Act foreshadowed the mounting importance of the tech lobby within American policy-making processes.

Liability presents a potentially rich avenue of research for those interested in the history of technology and political negotiations over responsibility. Some have argued that the legalization and formation of limited liability corporations was a crucial development in modern capitalism.⁶⁷ Likewise, recent debates about tech company responsibility, the governance of the web, and the management of online content have frequently turned to the limits on liability and responsibility stipulated in Section 230 of the Communications Decency Act.⁶⁸ We might question, then, how our histories of computing might be re-inflected through histories of liability and its limitations.

For those now reckoning with the history of computing in the 1990s (especially in the global north) the decade can be seen as a hinge that connects the relatively open architecture of the internet with the commercial interests of those hosting content—and the conflict of these two models for a networked society. The story of the Y2K Act exposes a different aspect of this history. It centers the emerging importance of Silicon Valley as a coherent bloc of political actors and the many ways that state, corporate, and civil society institutions thought about and mitigated their reliance on legacy code. The episode helps clarify how moments of legal and technological reorganization are negotiated through liability; it is also a reminder that as we face renewed calls for technology firms to take responsibility for social ills, that we've been down this road before, and that the ways we distribute responsibility will have far-reaching consequences.

Notes

- ¹ E. Ullman, “The Myth of Order,” *Wired*, vol. 7, no. 4, pp. 126–129, April, 1999.
- ² B. J. Feder and A. Pollack, “Computers and Year 2000: A Race for Security (and Against Time),” *The New York Times*. Available: <https://archive.nytimes.com/www.nytimes.com/library/tech/98/12/biztech/articles/27millennium.html>
- ³ Though widely referred to as a “bug” Year 2000 problems were, mostly, not bugs. In the strictest sense bugs are unintended errors and behaviors; coding century dates as two digits was a design choice. Despite this distinction, Year 2000 problems were widely described and represented as bugs and, in using my actors’ terms here, I have sometimes adopted this nomenclature.
- ⁴ P. N. Edwards, “Y2K: Millennial reflections on computers as infrastructure,” *History and Technology*, vol. 15, no. 1-2, pp. 7–29, 1998; N. Ensmenger, “Software as history embodied,” *IEEE Annals of the History of Computing*, vol. 31, no. 1, pp. 86–88, 2009; N. Ensmenger, *The Computer Boys Take Over*. Cambridge, MA: MIT Press, 2010.
- ⁵ P. E. Ceruzzi, *A History of Modern Computing*. Cambridge, MA: MIT Press, 2003; J. W. Cortada, *IBM: The Rise and Fall and Reinvention of a Global Icon*. Cambridge, MA: MIT Press, 2019.
- ⁶ S. S. L. Jain, *Injury*. Princeton, NJ: Princeton University Press, 2006
- ⁷ L. M. Friedman, *Total justice*. New York: Russell Sage Foundation, 1985, p. 5, emphasis in original; See also: L. Nader, *The Life of the Law: Anthropological Projects*. Berkeley, CA: University of California Press, 2002.
- ⁸ Nader, *The Life of the Law*.
- ⁹ K. Pistor, *The Code of Capital*. Princeton, NJ: Princeton University Press.
- ¹⁰ T. Streeter, “The Moment of *Wired*” *Critical Inquiry*, vol. 31, no. 4, pp. 755–779, 2005.
- ¹¹ R. Calo, “Open Robotics,” *Maryland Law Review*, vol. 70, pp. 571–613, 2010.
- ¹² The Century Dates Problem is not the only issue with the year 2000. Other issues included the representation of the date September 9, 1999 (9/9/99), a date that some programs used to perform self-diagnostics, and February 29, 2000, which many programs didn’t include. Year 2000 problems are certainly not the only calendar-based errors, either. The (mis)implementation of Unix time has often led to system malfunction, and the most threatening of potential errors is the so-called 2038 problem, and the calculation of dates beyond the capacity of 32-bit storage (the deadline would be: 03:14:07 UTC on 19 January 2038). The problem is consistently referred to as Y2K-like, or Unix Y2K. See: R. L. Bland, “Defusing the Millennium Bomb,” *Civil Engineering*, vol. 68, no. 6, pp. 48–51, 1998; S. Gibbs, “Is the Year 2038 problem the new Y2K bug?” *The Guardian*, December 17, 2014. [online] <https://www.theguardian.com/technology/2014/dec/17/is-the-year-2038-problem-the-new-y2k-bug>
- ¹³ P. N. Edwards, “Y2K,” p. 11.
- ¹⁴ *Ibid.*, p. 8.
- ¹⁵ S. Graham and N. Thrift, “Out of Order,” *Theory, Culture & Society*, vol. 24, no. 3, pp. 1–25, 2007, p. 12.
- ¹⁶ N. Ensmenger, *The Computer Boys Take Over*, p. 224.

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- ¹⁷ “Revised Specifications for a Common Business Oriented Language,” in Conference on Data Systems Languages records, Box: 25, Folder: 4, Charles Babbage Institute Archives, 1961.
- ¹⁸ The publication states: “Calendar Date is represented by a numeric code of six consecutive positions that represent (from left to right, in high to low order sequence) the Year, the Month and the Day, as identified by the Gregorian Calendar.” *Federal Information Processing Standards Publication 4*, National Bureau of Standards, 1968.
- ¹⁹ This was one component of the US Justice Department’s anti-trust claim against IBM, lasting from 1969–1981. The case was eventually dismissed. Richard Delamarter (an economist and expert witness for the Justice Department) claims that IBM used its monopoly status to artificially inflate the cost of memory in the 1960s. See: R. T. DeLamarter, *Big Blue*. Dodd, Mead & Company, 1986; Cortada, IBM; R. D. Williams and B. T. Smyth, *Law of the Year 2000 Problem*. Gaithersburg: Aspen Law and Business, 1999.
- ²⁰ R. W. Bemer, “What’s the Date?,” *Honeywell Computer Journal*, vol. 5, no. 4, 1971, p. 208. Emphasis added.
- ²¹ Bemer claimed that his awareness of the century digits problems came from his work with IBM installing a database system for the Church of Latter Day Saints (LDS). LDS were early adopters and their computerized genealogy database needed records that spanned multiple centuries—a perspective on database management that stood in stark juxtaposition with contemporary practices. P. Sullivan, “Computer Pioneer Bob Bemer, 84,” *The Washington Post*, June 25, 2004, p. B06; R. W. Bemer, “Time and Computer,” *Interface Age*, vol. 4, no. 2, pp. 74–79, 1978, p. 75.
- ²² P. De Jager, “Doomsday 2000,” *Computersworld*, vol. 27, (36), pp. 105–109, 1993. Another significant exception: J. T. Murray and M. J. Murray, *Computers in Crisis*. New York: Petrocelli Books, 1984.
- ²³ B. J. Feder and A. Pollack, “Computers and Year 2000.”
- ²⁴ The \$500–600 billion figure from Gartner was widely cited. See C. Simon, “Threat of Computer Glitch in 2000 Has Lawyers Seeing Dollar Signs,” in *The Wall Street Journal*, November 6, 1997, p. B12. A more sober and specific figure from Morgan Stanley estimated that in the US, “overall spending for public and private entities would range from \$78 billion to \$89 billion.” See: S. Barr, “Industry’s ‘Fix’ for Y2K Liability,” *The Washington Post*, Feb. 3, 1999, p. A15.
- ²⁵ International Y2K Cooperation Center Records (CBI 153) and the Center for Y2K and Society Records (CBI 155), at the Charles Babbage Institute, University of Minnesota, Minneapolis.
- ²⁶ The comparison between Y2K and climate change is frequent. Farhad Manjoo has made the case twice: F. Manjoo, “How Y2K Offers a Lesson for Fighting Climate Change,” *New York Times*, July 19, 2017. [Online]. Available: <https://www.nytimes.com/2017/07/19/technology/y2k-lesson-climate-change.html>; F. Manjoo, “How Our Response to Y2K Reveals What We’ll Do About Global Warming and Swine Flu,” *Slate Magazine*, November 12, 2009. [Online]. Available: <https://slate.com/technology/2009/11/apocalypse-then-how-our-response-to-y2k-reveals-what-well-do-about-global-warming-and-swine-flu.html>
- ²⁷ M. Wainwright, “NHS faces huge damages bill after millennium bug error” *The Guardian*, September 14, 2001. [Online] <https://www.theguardian.com/uk/2001/sep/14/martinwainwright>
- ²⁸ L. Menand, “Thinking Sideways.” *The New Yorker* 91, no. 6 (2015): 73–75.
- ²⁹ E. Ullman, “The Myth of Order,” p. 126.
- ³⁰ J.W. Stempel, “A Mixed Bag for Chicken Little: Analyzing Year 2000 Claims and Insurance Coverage.” *Emory LJ* 48 (1999): 169–266.
- ³¹ Produce Palace Int’l v. TEC-Am. Corp., Civ. No. 97-P-20134 (Mich. Cir. Ct., Macomb Cty., filed July 11, 1997); see also, C.W. Chamberlin, “To the Millennium: Emerging Issues for the Year 2000 and Cyberspace.” *Notre Dame Journal of Ethics & Public Policy* 13 (1999): 131–177.
- ³² A. Dunn, “Year 2000 Bug Likely to Infest Courtrooms,” *Los Angeles Times*, September 8, 1998, A1; C.W. Chamberlin, “To the Millennium.”
- ³³ At a conference for lawyers organized in San Francisco in November 1997, sessions were organized around the potential liability of computing companies, consultants, landlords, financial institutions, and insurance

companies, and there was a preview of potential lawsuits and defences. C. Simon, “Threat of Computer Glitch,” p. B12.

³⁴ J.W. Stempel, “A Mixed Bag for Chicken Little”; R. Bland, “Defusing the Millennium Bomb.”

³⁵ See J.W. Stempel, p. 262. See also: S. D. Esters, “AAIS Introduces Y2K Endorsements,” *National Underwriting*, Sept. 22, 1997, p. 8.

³⁶ Stempel, p. 249.

³⁷ Emphasis added. *Ibid.*

³⁸ Dunn, “Year 2000 Bug Likely to Infest Courtrooms,” A1.

³⁹ S. Barr, “Industry’s ‘Fix,’” p. A15.

⁴⁰ *Ibid.*

⁴¹ Jim Wooten quoted in Barr, “Industry’s Fix,” p. A15.

⁴² J. Tapper, “The Millennium Bug Bill Battle,” *Salon*, April 30, 1999. [Online]. Available: https://www.salon.com/1999/04/30/senate_y2k/

⁴³ Mark S. Mandell quoted in Barr, “Industry’s Fix,” p. A15.

⁴⁴ “Let high-tech firms face Y2k problems,” editorial, *Seattle Post-Intelligencer*, March 3, 1999.

⁴⁵ “Y2K bug begets bad bills,” editorial, *The Tennessean*, April 11, 1999.

⁴⁶ P. Tebbets “Triple Gouge of Y2K,” *Bangor Daily News*, March 23, 1999. News clippings are from the National Archives’ collection, “Records of the Office of Domestic Policy (Office of the Vice President) David W. Beier Files.” Box 55.

⁴⁷ P. Gillin, “Y2K escape clause,” *Computersworld*, February 8, 1999, p. 38

⁴⁸ *Ibid.*

⁴⁹ C. Simon, “Threat of Computer Glitch,” p. B12.

⁵⁰ J. Abbate, “Privatizing the Internet: Competing Visions and Chaotic Events, 1987–1995,” *IEEE Annals of the History of Computing*, vol. 32, no. 1, 2010, pp. 10–22.

⁵¹ T. B. Edsall and S. Barr, “Battle Lines on Y2K Liability Catch Gore in Cross-Fire,” *The Washington Post*, May 7, 1999, p. A02.

⁵² Rob Atkinson, quoted in T.B. Edsall, “GOP Vies for Backing of High-Tech Leaders; Party Aims to Exploit Y2K Vote, CEO Summit,” *The Washington Post*, June 13, 1999, p. A18.

⁵³ T. B. Edsall and S. Barr, “Battle Lines,” p. A02.

⁵⁴ *Ibid.*

⁵⁵ According to www.opensecrets.org, which compiles Federal Election Commission data, in the 1997–1998 election cycle lawyers and law firms donated \$45.7 million to Democrats and \$17.2 million to Republicans (a 73/27% split). In contrast, the electronics manufacturers and equipment lobby donated \$7.1 million to Republicans, and \$4.8 million to democrats (60/40%), and the computer software lobby \$1.7 million to Democrats and \$2.1 to Republicans (45/55%). The so-called internet lobby had donated less than a hundred thousand dollars to either party.

“Lawyers & Lobbyists” <https://www.opensecrets.org/industries/indus.php?Ind=K>

“Electronics Manufacturing & Equipment” <https://www.opensecrets.org/industries/indus.php?ind=B12++>

“Computer Software” <https://www.opensecrets.org/industries/indus.php?ind=C5120>

“Internet” <https://www.opensecrets.org/industries/indus.php?ind=B13++>

⁵⁶ T. B. Edsall and S. Barr, “Battle Lines on Y2K Liability,” p. A02. Brackets in original but emphasis added.

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- ⁵⁷ The House version, which the Senate eventually passed after substituting its own provisions, had stricter caps on damages and included a cap on attorneys' fees.
- ⁵⁸ "Chronology," in David W. Beier Files, Box: 55, National Archives, Washington, DC, 1999.
- ⁵⁹ T. B. Edsall and S. Barr, "Battle Lines on Y2K Liability Catch Gore in Cross-Fire," p. A02
- ⁶⁰ "Statement of Administration Policy, April 27 1999," in David W. Beier Files, Box: 55, National Archives, Washington, DC, 1999.
- ⁶¹ "Liability for the Millennium Bug," *New York Times*, April 26, 1999, p. A20
- ⁶² "Memorandum for John Podesta, Gene Sperling, David Beier; Re. Meeting with Silicon Valley Execs," in David W. Beier Files, Box: 55, National Archives, Washington, DC, 1999.
- ⁶³ "Email from David Beier to Sarah Rosen, Re. Briefing material for Podesta," in David W. Beier Files, Box: 55, National Archives, Washington, DC, 1999.
- ⁶⁴ "Y2K Liability Reform; Talking Points, June 10, 1999," in David W. Beier Files, Box: 55, National Archives, Washington, DC, 1999.
- ⁶⁵ *Ibid.*
- ⁶⁶ "Principles for Y2K Litigation Reform, June 16, 1999," in David W. Beier Files, Box: 55, National Archives, Washington, DC, 1999.
- ⁶⁷ K. Forbes, "Limited Liability and the Development of the Business Corporation," *Journal of Law, Economics, & Organization*, vol. 2, no. 1, pp. 163–177, 1986; "The key to industrial capitalism: limited liability," *The Economist*, pp. 111–112, Dec 25, 1999.
- ⁶⁸ R. Tushnet, "Power without Responsibility: Intermediaries and the First Amendment," *George Washington Law Review*, vol. 76, no. 4, pp. 986–1016, 2008.